..... rent of Madras

Public (1955) Department.

Proceedings 149 RDP VII/55-1,
dated 20/1/55.

Secret
Supdt

Further
Papers

Proceedings of the D.e.D.
No. 45591 RDP VII/55-1
Dated 22.11.1955.

project area will soon come into being.

This information may be given to Sri Srinivasa Pai and he may also be informed that by the establishment of these model centres, three of his suggestions will be covered and that the other four would follow in its wake.

N.V. Sanjeevanam
4.3.55

M(A) M. Bhakthavatsalam 5.3.55

10 2 8/55
8
5.3.55

11/2
7.3.55

Pub(RDP II) Dept.

With reference to A above, a draft letter is subd. for approval.

12/3/55.

10/3/55

12/3/55

Ref.C.No.3625/53-B. ...ct Executive Office,S.K.,
Mangalore, Dated 30--12--1954.

ASSISTANT SECRETARY TO GOVERNMENT
5/1 JAN 1955
(RURAL DEVELOPMENT PROJECTS), PUBLIC DEPT.

From
Sri. M. Narasimha,
Project Executive Officer,
South Canara, MANGALORE.

To
The Director of Community
Development, MADRAS.

Sir,

COMMUNITY PROJECT--South Canara--BLOCK III--Communication--Formation of Ajekar Hermunde road and construction of a bridge--administrative sanction--Requested.

--

I submit herewith an estimate in duplicate with site plan etc. for the construction of a bridge on the road from Ajekar to Hermunde in Block III. The particulars required are furnished below:

1. Block : : III

2. Name of work : : Formation of road from Ajekar to Hermunde and construction of a bridge.

3. Whether the work is approved and included in the overall programme.) : Yes. It corresponds to item No.64 in Block III under Kutcha roads.

4. Estimated cost: : 1. Road work: Rs.4,800/-.
2. Bridge work: Rs.25,000/-
Total. Rs.29,800/-

5. Villagers contribution: 1. Road work: Rs.4,800/-
2. Cash contribution: 2,600/-.
Total. Rs.6,800/-

6. Expenditure to be borne by the Community Project: Rs. 25,000/- Minus 2600/- : Rs.23,400/-

Remarks. This work relates to the formation of road Ajekar-Hermunde and construction of a bridge. The length of the road is about 3 miles and the villagers are prepared to do the road work by voluntary labour at an estimated cost of Rs. 4,800/-.

Hermunde village is a locality in Malnad area of Mangalore taluk cut off from communications on all the sides during monsoons. If proper communication facilities are given to this village, it has good chances for development. The villagers have come forward to contribute in cash to the extent of Rs.2600/- towards the construction of the bridge apart from the formation of the road by voluntary labour.

The estimated cost of the bridge work is Rs. 25,000/- and the same has been technically sanctioned by the Divisional Engineer(H) Community Project.

I.P.O.

1. I request that administrative sanction may be accorded for an expenditure not exceeding Rs. 22,400/- (25,000/- minus 2600/-) for the bridge work and the estimate returned for taking necessary further action.

Connected file of estimate etc. is herewith enclosed.

While according technical sanction to this and other similar estimates for bridge works, the Special Divisional Engineer (C.P.) has separately recommended that in view of the urgency of execution of these works ~~xxx~~ during the current working season ~~xxx~~ which is barely 4 months and the non-availability of tenders at or below estimate rates for bridge works, the responsibility of selecting a ~~xxx~~ suitable agency may be left to the Asst. Engineers concerned, dispensing with the tender system which only causes undue delay in starting the work and he may be permitted to start the work in anticipation of administrative sanction. I am submitting a separate report in the matter agreeing to the suggestion and seeking approval of the Government for the procedure suggested.

Yours faithfully,

31.12.54.

Project Executive Officer.

JC/ -12-54.

Specification Report to accompany the estimate for Constructing a bridge ~~at~~ across Hermunde River in Ajikar Hermunde Road.

Site: The bridge is proposed to be Constructed ~~nearly~~ 300'-0" down stream of the present Crossing where sheet rock is available at the surface itself.

Type. The proposed bridge will have 5 spans of 20'-0" each with R.C. slab decking.

Foundation. Sheet rock is available at the surface itself. This will be cleaned properly during excavation and a levelling course of cement concrete 1:3:6 mix 1'-0" thick will be laid over it as foundation and anchored against side with 1" dia dowel rods in suitable manner.

Sub-Structure: The abutments and wings are proposed to be built with C.R masonry in cm 1:5. The top width of abutments will be 3'-0" and bottom width 4'+1'. A front batter of 1 in 12 is provided for abutments. The piers will be built of C.R masonry in cm 1:5. The top width of piers is 2'-6" and suitable footing has been provided as indicated in the detailed drawings.

Superstructure. The superstructure will be of Reinforced cement concrete 1:2:4 slab 17" thick with clear spans of 20'-0" each designed for I.R.C B class Loading. The clear width of roadway will be 12'-0" The wearing surface will consist of cement concrete 1:1½:3 ~~of~~ 3" thick laid over the

RC check dam, the top of any property
diverted so as to flow towards the edges
for drainage purpose. Provision has been
made for wing guards of 0'9" x 0'11" and
RC Pitch of 0'5" x 0'7" & hand pack of 0'5" x 0'6"

A temporary provision has been made
for the formation of approach road, hauling
out water during excavation and construction
of temporary sheds to store materials etc.

The whole work will be executed as per
the Madras Schedule Standard Specification
and other relevant circulars.

H S Sheshy
10/12/84
Junior Engineer CP
Shanthinagara

N Shamul
27.12
Divisional Engineer (H)
Community Projects
Mangalore

for approved

Hydraulic calculations.

Area of cross section A = 1250 Sq.ft.

Wetted Perimeter P = 430 ft.

$\therefore \frac{A}{P}(r) = \frac{1250}{430}$ nearly 3.

Bed slope $S = \frac{98.66 - 96.9}{300} = .0059$

$\therefore$ using Manning's formula $v = \frac{1.486 \times r^{2/3} \times S^{1/2}}{n}$

$$v = \frac{1.486 \times 3^{2/3} \times .0059^{1/2}}{.035}$$

$$= 7'/\text{sec}.$$

$\therefore$ Discharge Q = 1250 × 7

= 8750 cusecs.

Ryves formula $Q = CM^{2/3}$

$\therefore$ Discharge = $1500 \times 15.5^{2/3}$

= 9324 cusecs.

Hence the max discharge as obtained by Ryves formula may be adopted for discharge calculations.

M F L = 109.00

Sill level = ~~99.00~~ 98.0

Depth of flume = 10'-0".

Allowing a linear waterway of 100'-0" - being the bank to bank length

velocity through vents = $\frac{9324}{100 \times 10} = 9.3'/\text{sec}.$

The bed is rocky and this velocity is permissible.

Hence provide 5 vents of 20'-0".

22.12

Divisional Engineer (H) Community Projects Planning

A.S. Shetty 3/12/54

Junior Engineer

Design of deck slab

clear Span 20'-0"

Effective Span = $20 + \frac{18}{12} = 21.5'$

clear roadwidth = 12'-0"

Impact factor = $\frac{15}{20+L} = \frac{15}{20+21.5} = 0.36$

Intensity of load per foot width of slab = $\frac{15000}{12} \times 1.36$

15000 lb load = 1700 lb

9000 lb load = $\frac{9000 \times 1.36}{12}$

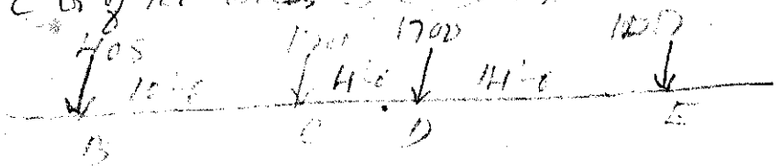
= 1017 lb.

3600 lb load = $\frac{3600 \times 1.36}{12}$

= 408 lb.

For Max BM the centre of span should be equidistant to the C.G of the loads coming over it and the load to the left of which the Max BM occurs.

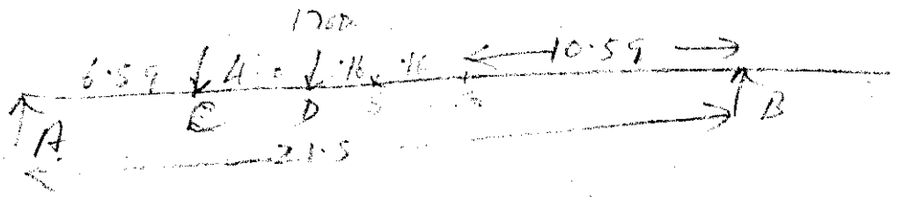
The C.G of the loads 1, 2, 3 & 4



$\frac{1700(4'-6"+9') + 1017 \times 22'-6"}{4408}$

= 14.82' from pt B.

The disposition of the loads with the front axle on the span is



$R_B \times 21.5 = 1700 (6.5 + 10.59)$

$R_B = 1358$

Max BM at D = $1358 \times 10.91 \times 12$

= 1,77,800 in lbs.

(PTO)

Load load =

Deck Slab = $\frac{18}{12} \times 150 = 225$

Weight coat = $\frac{3}{12} \times 140$ = 35

2260 kg

Live load = $\frac{4500 \times 2.5 \times 2.5 \times 12}{8}$

= 450,000 kg

Total BM = 450,000 kg

Resisting moment = 125.74 kg/cm²

$d = \sqrt{\frac{3150.000}{125.74 \times 12}}$

= 15.41"

Use = 16" say

= 1.45 sq.ft

Assume 16" slab and 7" cross brick floor

average = 1.57 sq.ft

Dead load = 16.41 + 7" = 0.5' = 16.91

= 17"

Live load = $\frac{1}{0.5} \times 1.45$ = 0.3113 sq.ft

Assume 7" slab and 7" cross brick floor

average = 0.34 sq.ft

Total load = 0.34 + 0.3113 = 0.6513 sq.ft

Live load = 0.65 × 140 = 91 kg/m²

Dead load = 1.57 × 150 = 235 kg/m²

Total load = 326 kg/m²

Load = $\frac{2370}{326}$ = 5 KN

Assistant Engineer CP

Junior Engineer

Sharanayana

Divisional Engineer (*)
Community Projects
Mangalore.

Constructing a Bridge across Mwimuende River in
Apiear Mwimuende Road

	No.	L	B	D	Cubs	Total
1. Earthwork in all soils except rock regardless classes	28				5000 cft	
2. Trenching rock in Blasts 24" thick.	28				600 sq ft	
3. Concrete 1:3:6 with 1½" hard granite metal including cost and conveyance of all materials to site for foundation						
Left Abutment	1	17'-6"	8'-3"	1'-0	144	
Wings	2	2'-0	8'-3	1'-0	33	
					149	
Right Abutment	1	17'-6	8'-6	1'-0	8+	~~530 or 550~~
Piers I, II, III, IV	4	17'-0	~~3'-6~~ 4'-0	1'-0	~~238~~ 272	~~6450 - 6300~~ 598 or 600
4. C.R. masonry II Sorts in C.M. 1:5 including cost and conveyance of all materials and also simultaneous Pointing Left Abutment						
98.00 to 112.00	1	13'-6	$\frac{1'-6+3'-9''}{2}$	14'-0	402 ~~425~~	
Straight portion	1	16'-6	$\frac{1-6+4-6}{2}$	14'-0	693	
cut wales	2	$\frac{22}{7}$	$\frac{2'-0}{2} \times \frac{1}{4}$	14'-0	44	
wings 98.00 to 112.00	2	$\frac{2'0+5'0}{2}$	$\frac{1-6+6-3}{2}$	14'-0	478	
112.00 to 113.66	2	5'-0	1'-6	1.66	25	
Right Abutment 97.00 to 112.00	1	13'-6'	$\frac{13'+2'9}{2}$	15'-0	431	
Straight portion	1	16'-6"	$\frac{1-6+4-9}{2}$	15'-0	773	
Cut wales	2	$\frac{22}{7} \times 2 \times \frac{1}{4}$		15'-0	47	
Wings 97.00 to 112.00	2	$\frac{4-9+8-0}{2}$	$\frac{1-6+8-6}{2}$	15'-0"	956	
112.00 to 113.66	2	8'-0	1'-6	1'.66	~~136~~ 40	3848 or 3871 or 3900
Deduct for bed block	2	13-6	1-6	1-0	41	
5. CR masonry I Sorts in C.M. 1:5 including cost & Conveyance of all material & also Simultaneous Pointing						
Piers ~~I II III~~ 98 to 106.00	2	13'-6	~~2'-0 2'-6~~	7'-0" 8'-0"	648 ~~473~~	
cut wales	2×2	$\frac{22}{7} \times \frac{1}{4} \times \frac{1}{2}$		7'-0" 8'-0"	113 ~~69~~	
Pier II 100 to 106.00	1	13'-6"	~~2'-6~~	6'-0"	243 ~~293~~	
Pier IV 98.00 - 106.00	1	13.6	~~2'-6~~	8-0"	~~270~~ 324	
cut Wales	2	$\frac{22}{7} \times \frac{1}{4}$		8'-0"	57	
Piers I & IV 106.00 to 111.00	4	13-6	~~3-6~~	5'-0	~~600~~	
cut wales	2×4	$\frac{22}{7} \times \frac{1}{4} \times \frac{1}{2}$		5'-0	98	

Pilasters

VI Cement Concrete 1:2:4 with 3/4 hard blue granite metal including earth excavation & all materials to Side for Wet & Dry	2×2	1'-6"	1'-6"	3'-0"	1 / 27	232 cft 2350 cft.
Abutments						
Pier						
Coping on pilasters	2	13'-6"	1'-6"	1'-0"	44"	
in Reinforced Cement Concrete 1:2:4 with 3/4 hard blue granite jelly, for	4	13'-6	2'-0	1'-0	108	
Oak Slab	1	9	1'-0	0'-4	4	153 cft 1160 cft
Kitabu		113'-6"			2161	
i) Piers	1	113'-0"	13'-6	1'-5	2×23	2316 cft.
Wing Walls	2	113'-0"	0'-9	0'-11	155 453	2276
ii) R.C.C. 1:2:4 with 1/2 thick 3/4 hard blue granite jelly, @ 33 1/3 % including cost	2×26	3'-7	0'-5	0'-7	118:3	
conveyance & all materials to Site for measuring cut	2×2	113'-0"	0'-5	0'-6	67.7 62.8	707 cft 108 cft.
iii) Rough Stone Pitching for Sentiment	1	116'-0"	12'-0	0'-3	348	348 cft.
Circular Portion for walls	2×2	4'-6"	2'-0"	2'-0	15'2	
Circular Seat for wall	1		2'-0	2'-0	320	
Circular portion Section	2×2	6'-0	15'-0	1'-0	360	
Approach Road	2×2	32'-0	10'-0	1'-0	5m	1633 m3
x) Earthwork in banks & filling Soil for Approach Road		-25-				1652 cft
xi) Dewatering such as Unexpected water during Execution Providing Temporary Work &c	L.S.					
xii) Petty Supervision Charges	L.S.					

H.S.Shetty
9/12/54
Junior Engineer CP
Shankaranarayana.

Divisional Engineer (N)
Community Projects
Mangalore.

Recommended
for payment
AEE (N) CP

Abstract & Estimate

Name of work :- Reconstructing a bridge across Kelmale River in Djekal Kilmuneli Road

Item	Description of work	Quantity	Rate	Per Unit	Total
	Earthwork in all soil excepting hard rock				
5760	Blasting	21 6-0	1000 cft		107.00
	Cement Concrete 1:4:8 with 1½" gauge blue Granite metal including cost & conveyance				
600 cft	all materials to site				6200
112 ft	Side fill for foundation	112-00	100 cft		728-00
600 cft	Dry Rubble Rock Masonry in CM in Cement mortar 1:5 including cost and conveyance of all materials to site and also finishing pointing	2-8-0 3-12-0	Sq.ft		875-0-0 1500-0-0
3900 cft	In abutments & wings CR masonry in CM 1:5 including cost & conveyance of all materials and also finishing pointing	106-00	100 cft		4134-00
2350 cft	Filling for foundation	117-00	cft		2750-00 3375-00
	Cement Concrete 1:2:4 with 3/4" hard granite metal including cost and conveyance of all materials to site for load block				
160 cft	Coping	2-8-0	cft		4100-00
	Reinforced Cement Concrete 1:2:4 with 3/4" gauge blue Granite metal including cost and conveyance and				11580-0-0
2316 cft	Casting 1:2:4 with 1½" gauge	5-0-0	cft		4380-00
1404 cft	Post & hand rails	13-0-0	cft		439-00 1404-00
108 ft	Cement Concrete 1:2:4 with 1½" gauge blue Granite metal including cost & conveyance all materials				
350 cft	to side for Abutment Coping	239-00			812-00
	Dry packing	41-12			672-00
1150 cft	for Sentiments				600-00
	Earth work in [illegible]				
	Granite Soil for				

~~22889-0-0~~

464-0-0

~~141-0-0~~

400-0-0

25000-0-0

Technical sanction accorded for Rs.25000/— (Rupees Twenty five thousand only) in DR No. 2 CP/54

Divisional Engineer (H)
Community Projects
Mangalore.

O/c.

Countersigned
9/1/55
D. C. D.

12-1-55 12/1/55 17-1-55

Issue 4/19/1

Proceedings of the D. C. D. No. 149 [illegible]

Sub:- Cls. S. Kanara Area - Block III - Communications Construction of a bridge on the road from Ajekar to Hermunde - Estimate - Sanctioned

plcf

Ref:- From the PEO. Mangalore [illegible] C. No 2025/53-B dated 30-12-'54.

~~No 149 Pub (RDP VI) 55-1 dt.~~

Order:-

Sanction is accorded to an expenditure not exceeding Rs 25000/- (Rupees Twentyfive thousand only) which is the estimated cost of Constructing a bridge on the Kuteka road to be formed from Ajekar to Hermunde and ~~which~~ is inclusive of the cash Contribution of Rs 2600/- to be remitted into a Govt. treasury. The road, 3 miles long is to be formed by the beneficiaries at a cost of about Rs 4200/-. This sanction is counted against the provision in item II. Communications in the budget estimates of this Area, approved by the C.P.A in their Lr. No. C.P.A 558/5/53 (Bud) dt 6-7-'54.

2. The expenditure should be debited to "63 B. C.D. Projects - A. J Communications 1. Works".

3. The PEO Mangalore is requested to get the work executed Speedily according to the plan and estimate Technically approved

by the Spl D.E. (H) Mangalore, which are required to be returned Countersigned

4/1/55

4-1-55
4/1/55

To
The PRO Mangalore (WE). by regd post
The AG. Madras
Cpy to
The Secy. CPA Regal Bldgs. New Delhi
The Collector of S. Kanara
Pub RDP (IV, VII & Tech.
SF-III

N.

The letter from the PRO Mangalore alongwith a/c may be perused. Construction of bridges or culverts on roads formed or to be formed by beneficiaries, is the normal responsibility of Govt. In this case a Cash Contribution of Rs 2600/- towards the Cost of the bridge is also promised. The estimate for Rs 25000/- for the Construction of the bridge may therefore be sanctioned. The road work is reported to be included in the Approved programme.

The draft proceedings above may be approved.
The estimate may also be Countersigned

4/1/55

20-1-55
20/1/55

4/1/55

17.1.55

4/1/55

issued as proceedings 149 RDP III/55-1 dt 20.1.55

CENTRAL DISPATCH BRANCH
Date 24.1.55 Initials.

2 copies kept in file

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15.1.55